

CLAIMS

What is claimed is:

1. A wireless image forming apparatus to wirelessly transmit and receive data with an external apparatus, comprising:

a wireless communication unit to

receive image data transmitted from the external apparatus, demodulate the received image data, output the demodulated image data,

detect a wireless reception sensitivity of the image data, and

output a reception sensitivity information corresponding to a result of detection; and

an image forming unit to

change a time-out value based on the reception sensitivity information, and

stop the reception of a data from the external apparatus as a time-out when a period of non-reception of the data exceeds the time-out value during the transmission of the image data from the external apparatus.

2. The wireless image forming apparatus of claim 1, wherein the wireless communication unit comprises:

a wireless communication module to

wirelessly receive the image data and demodulate the data,

detect the wireless reception sensitivity of the image data, and output the reception sensitivity information based on the detected wireless reception sensitivity;

a storage unit to temporarily store the demodulated image data and output the stored data, the storage unit storing a control program to detect the wireless reception sensitivity; and

a central processing unit to

control the communication of the data and the detection of the wireless reception sensitivity of the wireless communication module by loading the control program from the storage unit, and

output the reception sensitivity information input from the wireless communication module.

3. The wireless image forming apparatus of claim 2, wherein:

the wireless communication module outputs the reception sensitivity information by repeatedly checking the wireless reception sensitivity of the image data for a predetermined temporal interval in accordance with a control signal of the central processing unit while the image data is being transmitted.

4. The wireless image forming apparatus of claim 2, further comprising:
 - an input/output interface unit to
 - convey the demodulated image data and the detected reception sensitivity information to the image forming unit, and
 - receive feedback information with respect to a printing operation from the image forming unit, and then wirelessly transmit the feedback information.

5. The wireless image forming apparatus of claim 1, wherein the image forming unit performs a printing operation with respect to the image data transmitted before the time-out.

6. The wireless image forming apparatus of claim 1, wherein the image forming unit does not perform a printing operation with respect to the image data transmitted before the time-out.

7. The wireless image forming apparatus of claim 1, wherein the image forming unit comprises:

- a storage unit to temporarily store time-out information corresponding to the reception sensitivity information input from the wireless communication unit and the demodulated image data;
- a controlling unit to
 - change the time-out value in accordance with the time-out information corresponding to the reception sensitivity information stored in the storage unit, and
 - stop the data reception when the period of non-reception of the image data exceeds the time-out value; and
- a printing unit to print the image data based on the control signal of the controlling unit.

8. The wireless image forming apparatus of claim 7, wherein:

the controlling unit uses the time-out information stored in the storage unit to determine the time out value such that the time-out value is in inverse proportion to the wireless reception sensitivity.

9. The wireless image forming apparatus of claim 7, wherein the image forming unit further comprises:

an input/output interface unit to receive the image data and the reception sensitivity information from the wireless communication unit, and to output the feedback information with respect to the printing operation to the wireless communication unit.

10. A wireless printing method comprising:

changing a time-out value in accordance with a wireless reception sensitivity of a wirelessly transmitted image data;

performing printing of the transmitted image data; and

stopping a reception of the image data when a period of non-reception of the image data exceeds the time-out value.

11. The wireless printing method of claim 10, wherein the changing the time-out value in accordance with the wireless reception sensitivity of the wirelessly transmitted image data comprises:

detecting the wireless reception sensitivity of the transmitted image data at predetermined temporal intervals;

reading time-out information corresponding to the detected wireless reception sensitivity;

varying the time-out value in accordance with the read time-out information; and determining whether the reception and printing of the image data is complete.

12. The wireless printing method of claim 11 further comprising:

setting up the time-out information corresponding to the wireless reception sensitivity; and

storing the set time-out information.

13. The wireless printing method of claim 10, wherein the stopping the reception of the image data when the period of non-reception of the image data exceeds the time-out value further comprises:

printing with respect to the image data transmitted before the time-out.

14. The wireless printing method of claim 10, wherein the stopping the reception of the image data when the period of non-reception of the image data exceeds the time-out value further comprises:

not printing the image data transmitted before the time-out.

15. A wireless printing method comprising:
receiving image data;
detecting a wireless reception sensitivity of the image data;
selectively varying a time out value in accordance with the detected wireless reception sensitivity of the image data;
determining whether reception and printing of the image data are complete;
if reception and printing of the image data are not complete, determining whether a period of interruption of reception of the image data exceeds the varied time out value
if the period of interruption of reception of the image data exceeds the varied time out value, completing printing and ending;
if the period of interruption of reception of the image data does not exceed the varied time out value, continuing to receive image data, detecting wireless reception sensitivity of the image data, and determining whether reception and printing of the image data are complete until one of the reception and printing of the image data are complete, and the period of interruption of reception of the image data exceeds the varied time out value; and
if reception and printing of the image data are complete, ending.

16. The method according to claim 15, wherein the completing printing comprises:

printing the image data received before the time out value was exceeded.

17. The method according to claim 15, wherein the completing printing comprises:

not printing the image data received before the time out value was exceeded.

18. A wireless image forming system, comprising:
a terminal to send a printing request comprising image data;
a first wireless communication unit to receive the printing request from the terminal, and wirelessly transmit the printing request;
a wireless image forming apparatus comprising

a second wireless communication unit to wirelessly receive the printing request and detect a wireless reception sensitivity of the printing request; and

an image forming unit, in communication with the second wireless communication unit, to

form an image using the received printing request;

vary a time out value in accordance with the wireless reception sensitivity, and

stop reception of the printing request when a period of interruption of reception of the image data exceeds the varied time out value.

19. The system according to claim 18, further comprising:

an access point to relay the printing request from the first wireless communication unit to the second wireless communication unit.

20. The system according to claim 18, further comprising:

a plurality of terminals to send printing requests comprising image data; and

a plurality of first wireless communication units, each corresponding to one of the plurality of terminals, to receive printing requests from the respective terminals, and wirelessly transmit the printing requests,

wherein the second wireless communication unit wirelessly receives the printing requests from the plurality first wireless communication units, and processes the printing requests in consecutive order.